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Nigeria's Aviation at a Glance: The Assessment of Nigerians' Perceived Trust Level in Nigeria's Aviation Industry

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NIGERIA'S AVIATION AT A GLANCE: THE ASSESSMENT OF NIGERIANS' PERCEIVED TRUST LEVEL IN NIGERIA'S AVIATION INDUSTRY

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The recent occurrences of fatal aviation crashes in Nigeria have significantly affected Nigerians' trust in the overall performance efficiency of Nigeria's aviation. In the context of Africa's aviation, Nigeria in particular, it appeared that very little is being done on trust. This study assessed Nigerians trust level in Nigeria's aviation industry with respect to "Familiarity-Based Trust Model," (Zhang, Ghorbani & Cohen, 2007). The study used a 7-point Likert-type survey questionnaires as the primary data collection tools. Ten predictor variables (income, age, gender, political view, aircraft ownership, purpose of flying, class ticket, relationship status, distance flown, and flight frequency) were regressed on four dependent variables (pilots, airline, government, and aircraft). The result indicated that relationship status, annual flight rate, age, average annual income, and class ticket were significant predictors of Nigerians' perceived trust in the industry. The result was an eye opener for further scholarly research on trust in nation's aviation.

In the last few years, Nigeria's aviation industry has been in serious turmoil that degraded the level of Nigerians confidence in the industry. "The problems to confront are legion—and, of course, not just confined to the aviation sector: lack of transference, lack of management skills, errant government interventions, funding and infrastructure shortages" (Asiegbu, Igwe & Akeku, 2012, p.138). Unless critical steps and essential measures are being taken to restore Nigerians confidence in the market, the possibility remains that Nigerians' trust level in the industry will continue to suffer. Nigeria's Government, airlines, pilots, and aircraft have so far being identified by Nigerians as the four major players in the nation's industry. The purpose of this study is to assess the factors that influence Nigerians trust in the nation's aviation industry.

Literature Review

Familiarity-Based Trust Model

The theoretical framework upon which this study was grounded was familiarity-based trust model developed by Zhang, Ghorbani, and Cohen (2007). This theoretical model described trust as a function of factors such as experiences, repeated exposures, level of processing and forgetting rates of an agent. Several studies have explored the significant relationship between trust and familiarity. It was found that individuals often preferred familiar investments, and fear change and unfamiliarity (Zhang, Ghorbani & Cohen, 2007). According to Dani et al., (2006), trust is influenced by familiarity between agents over a significant period, shared experiences, reciprocal symbiosis between the agents, and "demonstration of non-exploitation expressed over time" (p.592). Familiarity is more than just underlying value-systems between two agents (Cater and Ghorbani, 2004). Familiarity, on the other hand, is defined as a complex understanding, which is often based on past interactions, experiences, and learning of others (Luhman, 1979; Zhang, Ghorbani & Cohen, 2007). It was stated that "trust is determined by the interplay of individuals' values, attitudes, moods, and emotions" (Jones & George, 1998, p.531). Familiarity is a paramount concept that mediates trust and reliance between agents.

Trust

Over the years, scholars have studied trust from different disciplinary perspectives, for example, psychological, sociological, and political science perspectives. It appeared obvious in the trust literature that there was no explicit integration about the definition of trust (Bhattacharya, Devinney & Pillutla, 1998). "Trust makes interactions easy. Supervisors and subordinates can coordinate their work efforts more effectively in the context of mutual trust. Likewise, international relations can progress rather than stall or regress when parties trust each other" (Lount, 2010, p.420). Trust as simple as it sounds, requires an exchange between trustor and trustee (usually

called agents). Agents in the context of the trust literature included but not limited to institutions, individuals, machines or organizations (Giustiniano & Bolici, 2012).

Definition of Trust

Review on the current researches showed that there hardly was a single definition of trust (Bhattacharya, Devinney & Pillutla, 1998; Kramer, 1999; Brewer, 1996; Calton, 1998). Lee and See (2004); Hoffmann and Sollner (2014) defined trust as a belief that an agent will help achieve an individual's goals in a situation characterized by uncertainty and vulnerability. It is a willingness to be vulnerable to the actions of another individual based on the expectations that the other party will perform a particular action important to the trustor, irrespective of the trustor's ability to monitor or control the trustee (Mayer, Davis & Schoorman, 1995; Zang, 1997; Rousseau, Sitkin, Burt & Camerer, 1998). Trust is a form of social capital; it is organizational resources; it is a mental state, and it is the foundation of social interaction in a group among agents on the basis of positive expectation (Bugdol, 2013). The economic definition of trust, however, is more centered on how institutions are created to minimize anxiety and uncertainty resulting from interactions between agents (Bhattacharya, Devinney & Pillutla, 1998). Researchers from a broad range of disciplines have examined the role of trust in the mediating relationship between individuals, groups, and organizations and emphasized the significance of trust in organizational settings (Lee & See, 2004; Rotter, 1967, Rampel et al., 1985; Johns, 1996; Moorman et al., 1993; Davis & Schoorman, 1995).

Organizational Trust

Study on organizational trust is gaining momentum and attention in the trust literature. Many researchers have stated that not much was done in the past on organizational trust, (Connell, Ferres & Travaglione, 2003; Tan & Tan, 2000; Mayer & Davis, 1999; Clark & Payne, 1997; Kramer & Tyler, 1996; Hosmer, 1995; Mayer, Davis & Schoorman, 1995)."This interest has been fueled, at least in part, by accumulating evidence that trust has a number of significant benefits for organizations and their members" (Kramer, 1999, p.569). In the context of employee-organization trust, it was found that increased distributive justice and procedural justice in the workplace; increased organizational commitment and decreased organizational turnover, are very critical to developing and strengthening trust (Rousseau, Sitkin, Burt & Camerer, 1998; Tan & Tan, 2000). Developing trust in the organizational context is imperative most especially in the event of crisis management because the business culture alone can influence trust (Rousseau, 1998; Calton, 1996; Tan & Tan, 2000; Calton, 1998; Connell, Ferres & Travaglione, 2003; Reychav & Sharkie, 2010).

Interpersonal Trust

Interpersonal trust is an integral part of organizational trust. Interpersonal trust could be politically-based, economically-based, or socially-based forms of trust. Studies on interpersonal trust on social and organizational sciences are among the important emerging areas in the trust literature. Teams are composed of different people where social relationships is crucial; hence, trust and distrust are very relevant factors to defining the kind of relationships that exist among such individuals (Baba, 1999). Trust is a cultural and sociological phenomenon, and it operates in several ways (Mechanic, 1996). Trust between various stakeholders in an organization, for example, employees and managers; managers of different subunits; firms and their customers; buyers and suppliers are necessary to enable effective and profitable business transactions (Fukuyama, 1995). Propensity to trust and trustee characteristics are paramount determinant of interpersonal trust. Propensity to trust depends on personality traits, cultural backgrounds and personal experiences (Hassan & Semerciöz, 2010).

Trust in Automation

Automation is the execution by a machine agent of a function that was previously carried out by human (Parasuraman & Riley, 1997).In the aviation domain, for instance, designers of mechanical aids do try to automate everything that could have an economic benefit without adequately addressing all the associated human factor problems such as insufficient feedback from the mechanical aid to the human operator, mode awareness, mode errors, mode management, and defect with the system reliability which impacts operator's trust on the system (Parasuraman & Riley, 1997; Norman, 1990; Sarter & Woods, 1994; Parasuraman, Molloy & Sign, 1993). Trust in automation is believed to be among the most important factors that affect operator's reliance, use, misuse, disuse,

and abuse of an electronic system as it does to humans (Parasuraman & Riley, 1997; Lee & See, 2004; Muir, 1988; Zhang, Ghorbani & Cohen, 2007). There are several studies which argued that the same factors affecting human-human trust, affect human-machine trust (Sheridan, 1975; Sheridan & Hennessy, 1984). People are more likely to trust machines that are believed to be reliable and trustworthy (Muir, 1988; Lee & See, 2004; Parasuraman & Riley, 1997; Zhang, Ghorbani & Cohen, 2007).

Design, Setting, and Methodology

The study constructed four regression models and determined coefficients of multiple determinations for each model that measured the variance in criterion variables (pilots, airline, government, and aircraft) being explained by the predictor variables. The predictor variables were gender, relationship status, private aircraft ownership, average annual distance travel, annual flight frequency, and most common purpose of traveling, class ticket, age, average annual income, and political view.

Population and Sample

The targeted population for this study was "Nigerians." The sample for this study was a randomly and a conveniently selected Nigerians who met the eligibility requirements for the study. The total sample size of (N = 110) Nigerians was collected. The sample had a total of (n = 30) females and (n = 80) males. There was a total of (n = 43) participants who had related knowledge and experiences in aviation. The a priori "Power Analysis" was performed using G*Power 3.0.10 (Faul, Erdfelder, Lang & Bucher, 2007). This analysis yielded a minimum sample size at (α = .05) of 82 participants. The post hoc power analysis was .99. The primary data collection tools were survey questionnaires. The survey instrument was a semantic differential scale that asked the participants to rate their perceived trust level in each of the four levels of the criterion variables (pilots, airline, government, and aircraft) using a 7-point Likert scale that ranged from negative 3 (-3), extremely distrust to positive 3 (+3), extremely trust. The predictor variables for this study were: gender, relationship status, private aircraft ownership, average annual distance travel, annual flight frequency, and most common purpose of flying, class ticket, age, average annual income, and political view.

Hypotheses

The study methodology was quantitative. The raw data collected were analyzed using descriptive multiple regression. The multiple regression analyses evaluated the relationship and predictability between the dependent and the independent variables. The study tested the following hypotheses:

> H_0: $\beta = 0$ (stated that there are no significant predictors that explain Nigerians' perceived trust level in Nigeria's aviation industry and Nigeria's government policy toward aviation, Nigeria's airline service quality, Nigeria's pilots flying skills, and Nigeria's aircraft service condition).
>
> H_A: $\beta \neq 0$ (stated that there are significant predictors that explain Nigerians' perceived trust level in Nigeria's aviation industry and Nigeria's government policy toward aviation, Nigeria's airline service quality, Nigeria's pilots flying skills, and Nigeria's aircraft service condition).

The data analysis produced the coefficients of multiple determinations, *t*-ratios, and *f*-ratios. The a priori alpha-level of significance was set at (α .05). The decision to reject the null hypothesis was made based on the *f*-ratios and *t*-ratios, respectively. The Statistical software used was SAS JMP® 11 software. As a parametric study, the data collected were tested and satisfied the statistical assumptions of linearity, normality, and homoscedasticity assumptions.

Results

Descriptive Statistics

The study used a sample size (N = 110) participants: (n = 30) females and (n = 80) respectively. The age distribution of the study group showed a mean and standard deviation (M = 38.25, SD = 9.34). The sample data showed that participants have mean annual income (M = 1,630,606, SD = 1,302,265) Nigeria's Naira. The income distribution showed a widespread income disparity among Nigeria's population. Annually, each participant travels, on average distance of (M = 2,271, SD = 2,805) kilometers. The mean and standard deviation of absolute trust in Nigeria's aviation were (M = .70; SD = 1.23).

Inferential Statistics

ANOVA used trust as a dependent variable and the four levels (group) of Nigeria's aviation (pilots, aircraft, airline, and government) as independent variables. The null hypothesis for this test stated that there is no significant difference between the group means of pilots, aircraft, airline, and government ($\mu_{pilots} = \mu_{aircraft} = \mu_{airline} = \mu_{government}$). The alternative hypothesis stated that at least one group mean is different. The result indicated statistically insignificant difference between the group means for pilots, aircraft, airline, and government. The differences in means between pilots (M = .81, SD = 1.64), aircraft (M = .66, SD = 1.44), airline (M = .71, SD = 1.43) and government (M = .66, SD = 1.60) were not statistically significant, $F(3, 439) = .34$, $p > .794$, $\eta p2 = .001$.

Regression Output

The first regression analysis used trust in Nigeria's pilots flying skills as the dependent variable. Backward stepwise regression was employed to delete the ineffective predictors that were statistically insignificant. The resulting model included two of the original predictors. Relationship status and annual flight frequency significantly predicted Nigerians' perceived trust in pilots' flying skill. Relationship status: $\beta = .28$, $t(110) = 3.11$, $p = .003$; annual flight frequency: $\beta = .28$, $t(110) = 3.09$, $p = .004$.This model accounted for 17% of the variance in the dependent variable, $F(2, 109) = 10.98$, $p < .001$. The result showed that the more Nigerians fly in aircraft piloted by Nigeria's pilots, the more they trust the pilots' flying skills. Also, the result showed that married Nigerians flyers tend to trust Nigeria's pilots flying ability more than the unmarried Nigerians.

The second regression analysis was conducted using perceived trust in Nigeria's airline service quality as dependent variable, with the same response variables. Age significantly predicted perceived trust in Nigeria's airlines services, $\beta = .28$, $t(110) = 3.07$, $p = .003$. This model accounted for 8% of the variability in the criterion variable, $F(1, 109) = 9.40$, $p = .003$. The results indicated that the older generations of Nigerians believed that the Nigeria's airlines are doing better.

The third regression analysis was performed using perceived trust in aircraft maintenance status as the criterion variable; the same predictor variables were used. Annual income and class ticket were significant predictors for trust in Nigeria's aircraft maintenance condition. Average annual income (Naira): $\beta = .39$, $t(110) = 3.86$, $p = .002$; class ticket: $\beta = .32$, $t(110) = 3.14$, $p = .002$. The model accounted for 14% of the variance in the dependent variable, $F(2, 109) = 8.62$, $p = .003$. Nigerians with higher income and who can afford more expensive flight tickets believe that the maintenance status of the nation's aircraft is acceptable

In the last regression model, the criterion variable was perceived trust in Nigeria's government's aviation policies, with the same predictor variables. Average annual income and class ticket significantly predicted perceived trust in Nigeria's government aviation policies. Annual income: $\beta = .53$, $t(110) = 5.60$, $p < .001$; class ticket: $\beta = .34$, $t(110) = 3.57$, $p = .005$. The model accounted for 23% of the variance in the criterion variable, $F(2, 109) = 16.32$, $p < .001$. The result showed that the first class passengers in Nigeria perceived that the Nigeria's government policies toward aviation are within acceptable tolerance.

Decision on Hypotheses

The null hypothesis was rejected in favor of the alternative hypothesis using both classical and p-value decision rules. This affirmed that that there are significant predictors that explained Nigerians' perceived trust level

in Nigeria's aviation industry and Nigeria's government policy toward aviation, Nigeria's airlines service quality, Nigeria's pilots flying ability, and Nigeria's aircraft service condition. Perceived trust in pilots flying skills: $F(2, 109) = 10.98$, $p < .001$; perceived trust in airline service quality: $F(1, 109) = 9.40$, $p = .003$; perceived trust in aircraft maintenance status: $F(2, 109) = 8.62$, $p = .003$; and perceived trust in government aviation policies: $F(2, 109) = 16.32$, $p < .001$. The results showed statistical significance compare to baseline ($p = .05$). The following variables, therefore, were found to be statistically significant predictors of Nigerians' perceived trust level in the performance efficiency of the Nigeria's aviation: annual flight frequency, relationship status, age, average annual income, and class ticket.

General Discussion

It was found in this study that relationship status, flight frequency, age, average annual income, and class ticket were significant predictors of trust in Nigeria's aviation industry. Readers should remember that trust is a social phenomenon; it is a psychological state, and the foundation of social interaction in various aspects of human life (Bugdol, 2013). Trust is also a social capital; is hard to build but easy to dissipate (Kramer, 1999). The measurement of trust is very subjective. Individuals' perception to trust or distrust another agent could be affected by their mood, emotion, personality traits, and expectation. In the trust literature, it is accepted that trust is a history-dependent process based on fair dealings between agents. In the context of this study, the better the service quality Nigerians receive from Nigeria's aviation; the more positive their expectation about swhat the industry can offer, and the stronger their trust in the industry.

According to familiarity-based trust model, trust is a combination of self-esteem, reputation, and familiarity (Zhang, Ghorbani & Cohen, 2007). A Nigeria's airline, for example, that builds a positive reputation through quality service delivery, hiring highly qualified pilots, and ensuring a high standard of aircraft maintenance, can enhance stronger public trust compare to an airline that did not do as well. In another words, Dani at el., 2006 defined trust as an agent's belief that another agent makes a reasonable effort to behave in accordance with the expected level of commitment. Nigerians who fly more frequent have positive experience about the aircraft maintenance status and the pilots' skills; hence, they tend to have a stronger faith in pilots and aircraft. The age of flying public, for example, was a significant predictor of trust in airline service quality. Annual income and class ticket revealed the differences in experiences between first class and economic class passengers in term of inflight services. Passengers with higher annual income can afford first class tickets; tend to reflect positively about the airline service and the government policies.

Conclusion

This study evaluated the factors that influenced Nigerians' trust in Nigeria's aviation. The study did not include all the predictor variables that affect people trust. Trust is believed to be influenced by individuals' attitudes, emotion, expectations, and predisposition to trust other agents (Kramer, 1996). It is recommended that future research should consider additional variables such as: emotions, educational level, personality, and predisposition to trust, among others.

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